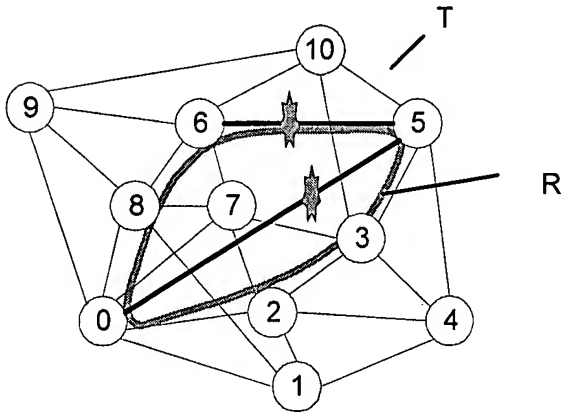


Fig. 1(a)

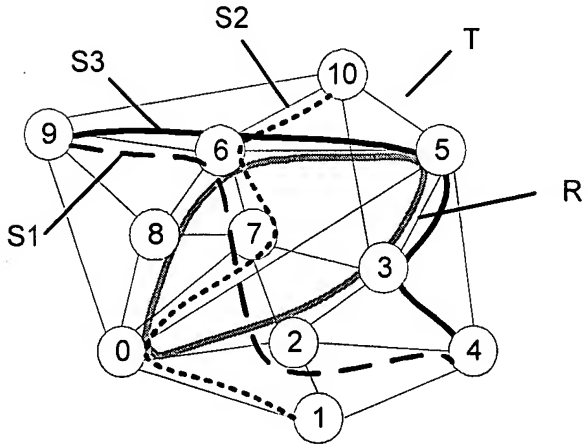


Fig. 1(b)

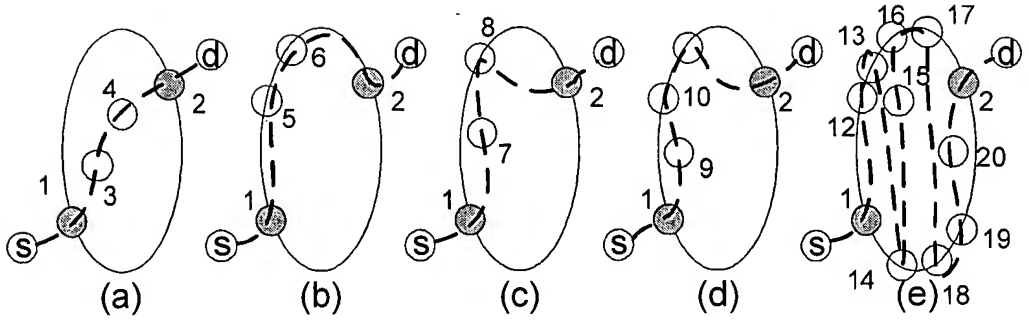
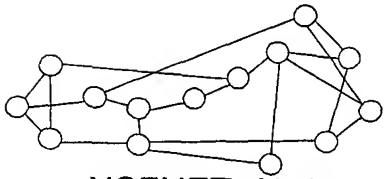
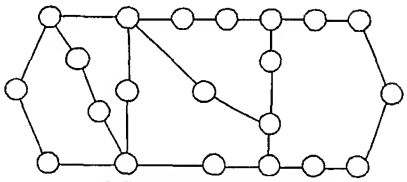


Fig. 2



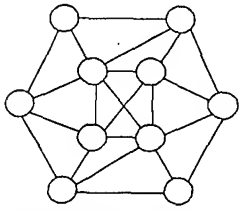
NSFNET, N=14, S=21, $|P|$=139

Fig. 3(a)



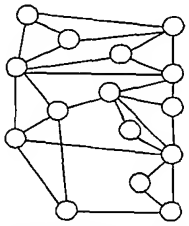
ARPA2, N=21, S=25, $|P|$=18

Fig. 3(b)



SmallNet, N=10, S=22, $|P|$=833

Fig. 3(c)



Bellcore, N=15, S=28, $|P|$=976

Fig. 3(d)

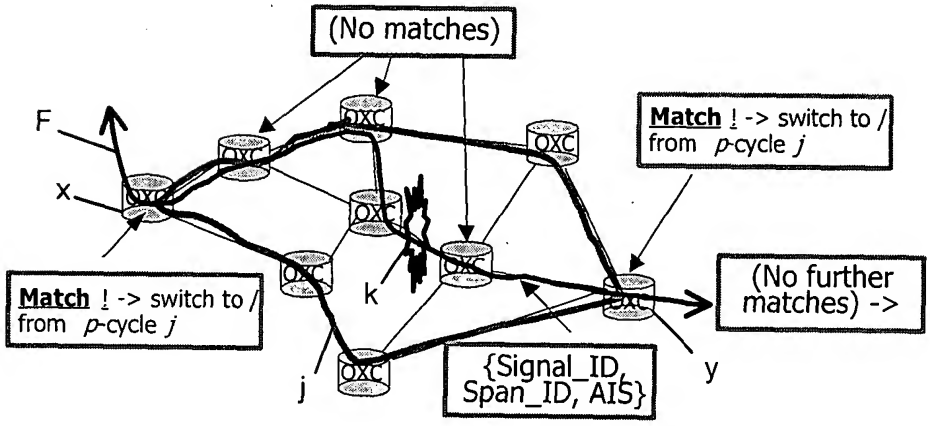


Fig. 4

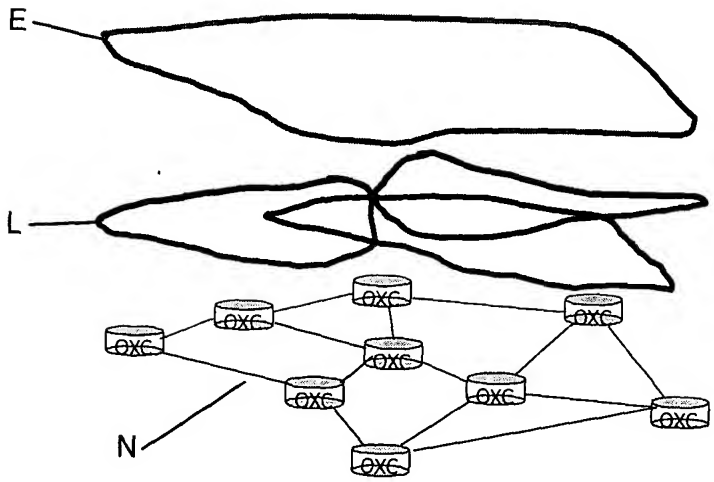


Fig. 5

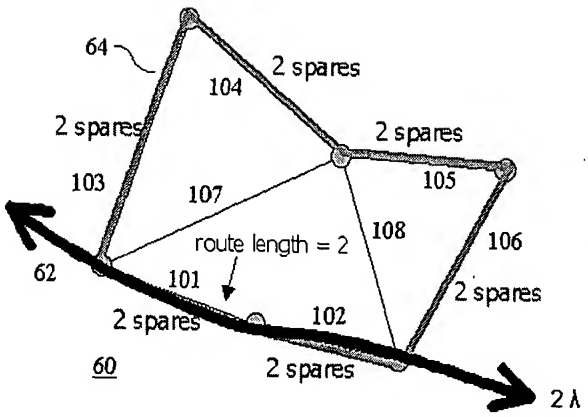


Fig. 6(a)

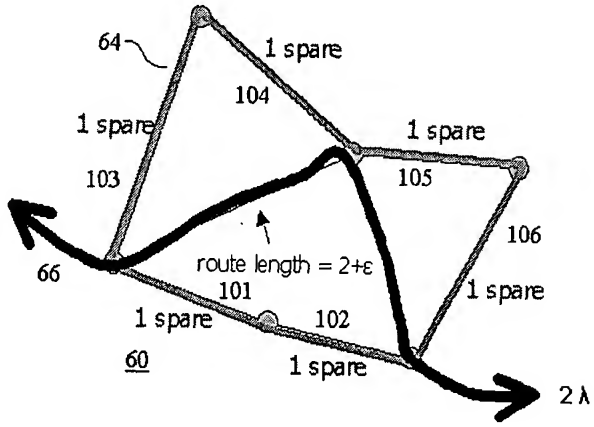


Fig. 6(b)

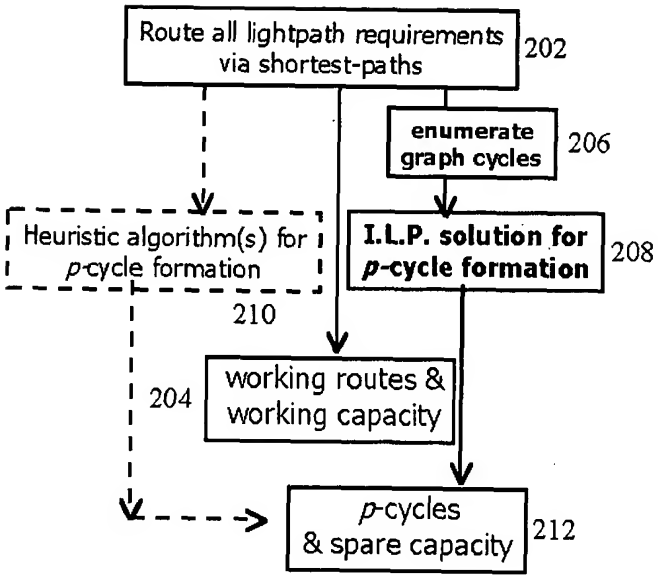

Route all lightpath requirements via shortest-paths
202
enumerate graph cycles
206
Heuristic algorithm(s) for p-cycle formation
210
I.L.P. solution for p-cycle formation
208
204
working routes & working capacity
p-cycles & spare capacity
212

Fig. 7(a)

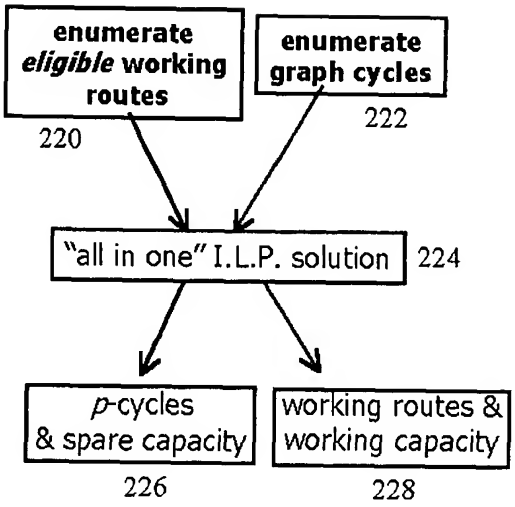

enumerate eligible working routes
220
enumerate graph cycles
222
"all in one" I.L.P. solution
224
p-cycles & spare capacity
226
working routes & working capacity
228

Fig. 7(b)